

CLAIMS

1. A fuel cell manufacturing method for obtaining a fuel cell by manufacturing unit fuel cells, by providing positive and negative electrodes on the sides of an electrolyte membrane and providing separators on the outer faces of these positive and negative electrodes, and stacking together multiple of these unit fuel cells, said method comprising the steps of:

loading the multiple unit fuel cells onto a leaning inclined stage in a stacked state;

supporting the left and right sides of the stacked multiple unit fuel cells; aligning the multiple unit fuel cells with a vibrating action while lowering the inclined stage to the horizontal;

disposing first and second support plates on the end faces of the aligned multiple unit fuel cells;

applying a predetermined pressing force to the multiple unit fuel cells by way of the first and second support plates; and

connecting together the first and second support plates with connection members while the predetermined pressing force is being applied to the multiple unit fuel cells.

2. The fuel cell manufacturing method of claim 1, characterized in that in the pressing force applying step, as a pressing force applied to the multiple unit fuel cells is raised in stages to the predetermined pressing force, it is raised more gradually, taking more time, as it approaches the predetermined pressing force.

3. An apparatus for manufacturing a fuel cell comprised of unit fuel cells, made by providing positive and negative electrodes on opposite sides of an electrolyte membrane and providing separators on the outer faces of these positive and

negative electrodes, first and second support plates provided on the end faces of a stack of unit fuel cells made by stacking together multiple of the unit fuel cells, and connection members connecting together the first and second support plates, comprising:

5 a pusher beam part swingably mounted on a bed structure, for supporting the first support plate and the multiple unit fuel cells in a stacked state;

 a pusher beam pivoting part for swinging the pusher beam part between an upward-pointing position in which the stacking of the first support plate and
10 the multiple unit fuel cells is carried out and a horizontal position in which the connecting of the second support plate to the first support plate is carried out;

 guide means provided along the length direction of the pusher beam part for slidably supporting three sides of the multiple unit fuel cells;

 vibrating means for applying a vibration to the guide means to align the
15 multiple unit fuel cells supported on the guide means;

 pusher moving means for moving the first support plate and the multiple unit fuel cells along the guide means;

 a receiver part, swingably provided facing the pusher beam part, for supporting the second support plate;

20 a receiver pivoting part for swinging the receiver part between an upward-pointing position in which it supports the second support plate and a horizontal position in which the connecting of the second support plate to the first support plate is carried out; and

 pressing force measuring means for, when the receiver part and the
25 pusher beam part are respectively disposed in their horizontal positions and one end face of the multiple unit fuel cells is pressed against the second support plate with the pusher moving means, measuring the pressing force acting on the second support plate.